



C2321 Installation Instructions 2019-2023 Chevy/GMC 1500 2/4WD Adventure Series Upper Control Arm

Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

»» PRODUCT SAFETY WARNING

Certain Zone Suspension Products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Zone Offroad Products does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

»» TECHNICAL SUPPORT

www.zoneoffroad.com may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to tech-zone@ridefox.com detailing your issue for a quick response.

888.998.ZONE Call to speak directly with Zone tech support.

»» PRE-INSTALLATION NOTES

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.
8. Control arms typically add 1-2 degrees caster above stock alignment specifications.

Difficulty Level

easy 1 (2) 3 4 5 difficult

Estimated installation: 2-3 hours

Special Tools Required

Cut Off Wheel / Reciprocating Saw

Welder (Optional)

Tire/Wheel Fitment

5-1/2" MAX Backspace Wheel when used on a 2-3.5" Kit.

Factory Backspace Wheel when used with a 6" ZoneKit.

rev031323

ZONC2321 Kit Contents

Qty Part

1	Driver Side Upper Control Arm Assembly
1	Passenger Side Upper Control Arm Assembly
2	Ball Joint Cap
2	O-Rings
1	874 Bolt Pack
3	3/8" x 0.28" ID hold Wire coated clamp
2	1/4"-20 x 3/4" Bolt
2	1/4"-20 Prevailing Torque Nut
4	1/4" SAE Washer
2	12mm Nylock Nuts

1	640 Bolt Pack
4	14mm-2.00 x 80mm Bolt
4	14mm-2.0 Nut
8	14mm Washer

Important—measure before starting!

Measure from the center of the wheel up to the bottom edge of the wheel opening

LF _____ RF _____

LR _____ RR _____

PRE-INSTALLATION NOTES

1. Control arms typically add 1-2 degrees caster above stock alignment specifications.
2. All aftermarket wheels should be test fit prior to mounting the tire to ensure proper clearance to the brake caliper. Some wheel profiles will not clear the brake caliper. These can be test fitted before the vehicle is lifted.
3. For replacement ball joints use service kit ZONF8202. Ball joint is directional and must be installed with the 'dot' facing either inward or outward on the vehicle, otherwise damage may occur.
4. These will NOT work for stock height vehicle. These upper control arms WILL ONLY work on all Zone 6" kits (Including Denali vehicles), Zone 4" Trail BOSS / AT4 kits, as well as 2"-3.5" leveling kits (Including Denali vehicles)

FRONT INSTALLATION INSTRUCTIONS

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Raise the front of the vehicle and support the frame rails with jack stands.
3. Remove the front wheels.
4. Disconnect the front driver's and passenger's side sway bar links from the lower control arm. Save hardware. Figure 1

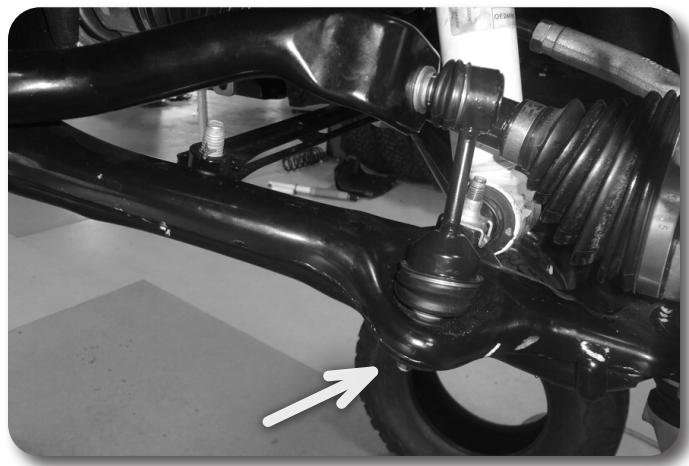


Figure 1

Perform the following installation steps on one side at a time.

5. Remove the wire retaining clips from the strut studs and loosen but do not remove the three upper strut mount nuts at the frame. **Figure 2** Do not loosen- the center strut rod nut.



Figure 2

Step 5 Note:

For the passenger side inner nut it may be easier to access the nut through the engine bay.

6. Remove the nut from the steering tie rod end. **Figure 3** Thread the nut back on a couple of turns by hand. Strike the knuckle near the tie rod end to dislodge the rod end taper from the knuckle. Remove the nut and the tie rod end from the knuckle. Save nut.

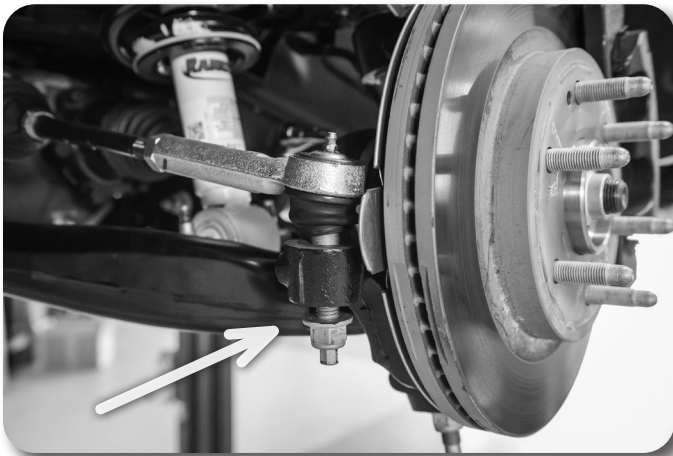


Figure 3

7. Unclip the ABS wire from the knuckle for additional slack. **Figure 4**

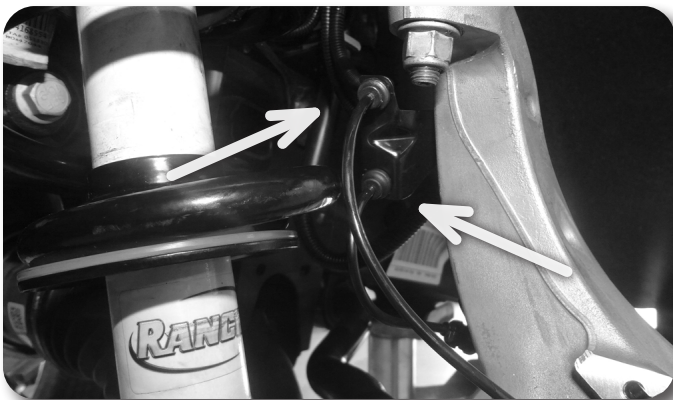


Figure 4

Step 8 Note:

A strap can be used to hold the knuckle back in order to prevent the CV axle from pulling out of the inner joint.

8. Support the lower control arm with a hydraulic jack and remove the nut from the upper ball joint. **Figure 5A** Thread the nut back on a couple of turns by hand. Strike the knuckle near the upper ball joint to dislodge the rod end taper from the knuckle. Remove the nut and allow the knuckle to swing rearward out of the way **Figure 5B**. Discard the factory ball joint nut.



Figure 5A

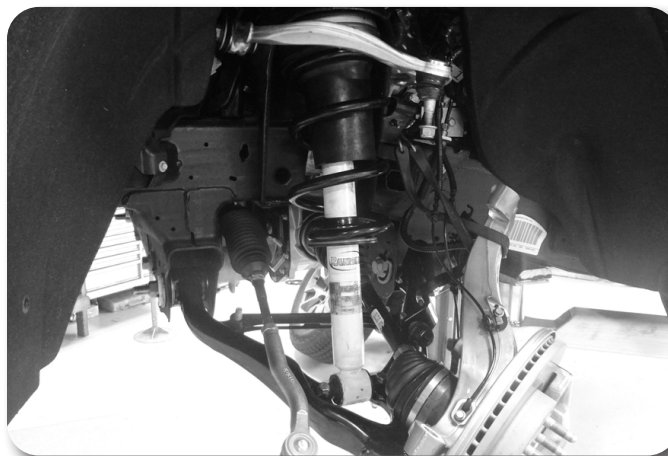


Figure 5B

9. Remove the two lower strut bar pin bolts. **Figure 6** The bolts will not be reused. Lower the control arm with the jack so there is enough room to remove the factory strut.



Figure 6

10. Remove the three nuts attaching the strut to the frame **Figure 7**. Remove the strut from the vehicle. **DO NOT** remove the center strut rod nut. Discard the nuts, they will not be reused.



Figure 7

Control Arm Installation

11. Remove the ABS wire / brake sensor wire from the upper control arm. Remove the upper control arm from the vehicle by removing the two bolts attaching the upper control arm to the strut bucket / frame **Figure 8**. Save hardware. If replacing the upper arm on a Denali truck, remove the sensor arm from the ball stud on the upper control arm.

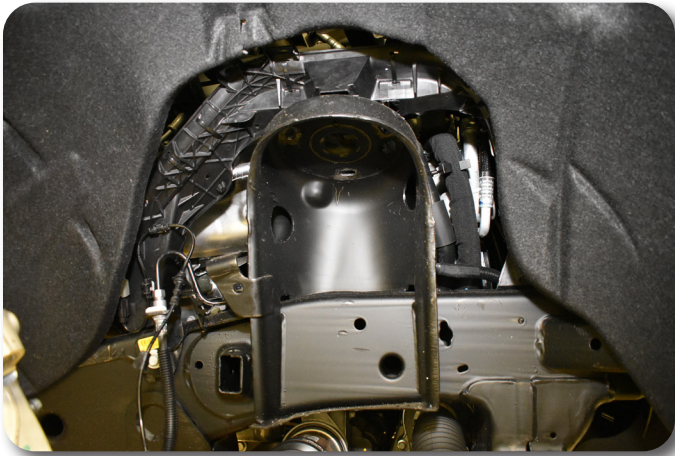


Figure 8

12. The new replacement control arm assemblies have a larger profile than the OEM assemblies. They are also designed with a wider range of available travel. Due to these unique differences, the tab on the side of the strut bucket must be removed to avoid interfering with the proper function of the new control arm assembly. Cut the tab from the side of the strut bucket as shown in **Figure 9**.

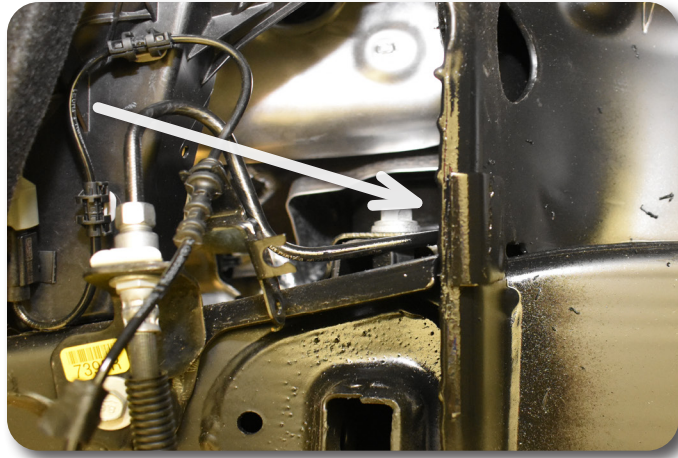


Figure 9

Step 13 Note:

The UCA hardware is located in Bolt Pack 640.

IMPORTANT

FAILURE TO FOLLOW PROCEDURE FOUND IN STEP 13 CAN RESULT IN BUSHING DAMAGE.

Step 15 Note:

The OE nylock nut will only be temporarily used to set the control arm at the correct ride height so that the rubber bushing preload is correct. **DO NOT USE THE OE NYLOCK NUT FOR THE FINAL INSTALL.**

13. Install the new upper control arm to the vehicle using the **new provided 14mm bolts, washers, and nuts from Bolt Pack 640 and using thread locker.** Run the bolt with a washer from the inside out of the strut bucket outwards with a washer and nut on the outer bushing washer surface. Do this for the front and rear control arm mounts. Figure 10. Snug up hardware.



Figure 10

14. Attach the ball joint on the new upper control arm to the knuckle. Snug up ball joint using the OE Nylock Nut, but do not torque down. The upper ball joint will be removed from the knuckle later so that the strut can be installed.
15. Set the ride height from the fender lip to the center of the hub at 24-1/2" (2" Kits), 26" (3-1/2" Kits), 28-1/2" (6" Kits & 4" TB/ AT4 Kits). **Using a torque wrench on the inside of the strut bucket and a wrench on the outside bushing to prevent the nut / bushing from moving,** tighten the control arm hardware to 126 ft-lbs. This will ensure the rubber bushings are tightened to the right position and not put preload in the rubber bushings. **DO NOT** spin the "bushing side" hardware when tightening, only tighten from the inside "frame side".

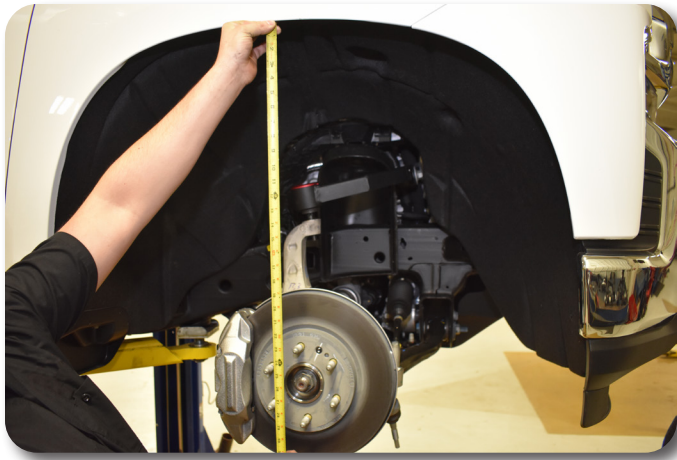


Figure 11A

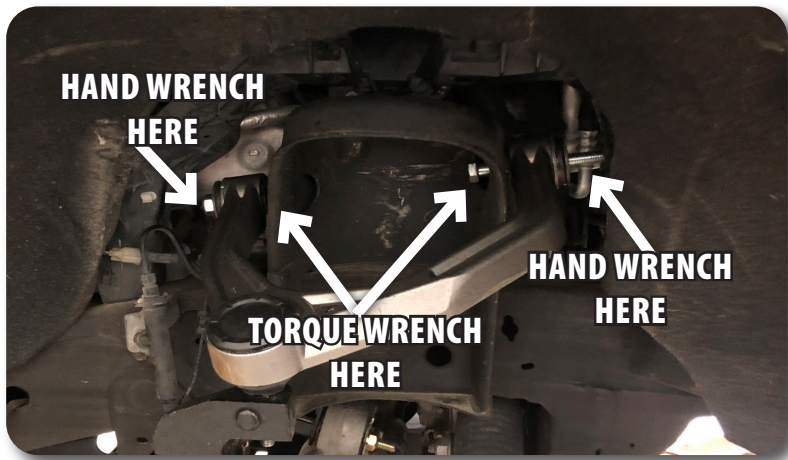


Figure 11B

Strut Installation

16. Remove the upper ball joint from the knuckle. Discard OE nylock nut. Make sure the knuckle is supported so it does not pull out the CV.
17. Reinstall the strut into the vehicle **Figure 12**. Leave the hardware loose.



Figure 12

Step 17 Note:

Do not tighten the upper strut nuts at this time, it will make it easier to install the lower strut spacer.

18. Reinstall the lower strut mount **Figure 13**. Torque the lower mount hardware to 37 ft-lbs.



Figure 13

19. With the lower hardware tight, torque the upper strut mount nuts to 40 ft-lbs.
20. Reattach the upper ball joint to the knuckle **Figure 14**. Use the provided **12mm nylock nut in bolt pack 874**. Use the jack to support the lower control arm and torque the upper ball joint nut to 26 ft-lbs with the first pass and 60-75 degrees on the final pass.

Step 20 Note:

The nylock nut is located in Bolt Pack 874.



Figure 14

21. Reattach the tie rod to the knuckle and torque the factory nut to 44 ft-lbs.
22. Repeat installation on the opposite side of the vehicle. When both sides are complete, reattach the sway bar links and tighten hardware to 60 ft-lbs.
23. Reattach the brake wire / ABS wires to the factory position on the knuckle **Figure 15**. Use the provided wire clamps and 1/4" bolt to attach the brake wire / ABS wire to the upper control arm. Check for enough slack in the wires and adjust as necessary.



Figure 15

24. If the upper control arms are used on a Denali truck, transfer the ball stud to the threaded hole on the front side of the upper control arm **Figure 16**. Reattach the sensor arm to the ball stud. The sensor location on the ZONE UCA is already relocated for 2" leveling kits or 6" kits so that the sensor does not need to be relocated at the frame.



Figure 16

25. Reinstall the front wheels and lower the vehicle to the ground. Torque lug nuts to 140 ft-lbs in a crossing pattern.
26. Grease the ball joint at this time with 3-4 pumps. Do NOT overgrease the ball joint. Install the o-ring onto the black ball joint cap. Using the provided grease packet, lightly grease the o-ring and install the cap onto the control arm by lightly tapping it down with a rubber mallet.

Post Installation Instructions

27. Check all hardware for proper torque.
28. Check hardware after 500 miles.
29. Adjust headlights.
30. The vehicle will need a complete front end alignment.
31. At regular maintenance intervals make sure the upper ball joint is greased (3-5,000 miles). The grease fitting can be accessed using a flathead screwdriver and removing the cap from the ball joint cup.

Post-Installation Warnings

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure.
3. Perform head light check and adjustment.
4. Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.